U.S. Department of Transportation

General Counsel

400 Seventh St., S.W.
Washington, D.C. 20590

EX PARTE OR LATE FILED

DOCKET FILE COPY ORIGINAL

August 31, 2001

Ms. Magalie R. Salas
Secretary, Federal Communications Commission
The Portals
445 12th Street, S.W. TW-A325
Washington, D.C. 20554

Re: Petition for Allocation of N11 Telephone Number for ATIS
CC Dkt. No. 92-105
NSD File No. L-99-24

Dear Ms. Salas:

The most recent filing in this proceeding of the U.S. Department of Transportation ("DOT") informed the Federal Communications Commission ("FCC") of our efforts to facilitate deployment of the 511 abbreviated dialing code for advanced traveler information systems. Comments of DOT on Petitions for Reconsideration, filed April 12, 2001, at 15-17. This letter is submitted to inform the FCC of developments since that time.

Our April Comments noted that a "511 Policy Committee" was drafting guidance intended to ensure that the information presented via 511 met certain standards for content and quality, "so that accurate and reliable information is a hallmark of the 511 code." Id. at 16. On August 23 the 511 Policy Committee approved recommendations for the content and consistency of information to be made available through 511. Content guidelines define the information that should be presented to inform the public of the condition of the transportation network. Consistency guidelines pertain to what callers actually hear and other implementation details that will provide a consistent experience for travelers across the country. For details please see the enclosure submitted herewith, which consists of materials prepared for the August 23 meeting of the 511 Policy Committee. Tabs 4 and 5 concern the Content and Consistency guidelines, respectively. The only recommendation not adopted by the Committee deals with the transfer of emergency calls from 511 to 911, which was deferred pending further study of the issue. Tab 5. (Tab 6, "511 Business Models," is ancillary material potentially useful to deployers of 511, but does not constitute part of the guidelines.)

OFT

DOT expects that formal Content and Consistency guidelines will be published by the end of September. Over the four months that follow, the 511 Policy Committee sponsoring organizations -- the American Association of Highway and Transportation Officials, the American Public Transit Association, and the Intelligent Transportation Society of America -- will pursue official adoption of these guidelines within their membership. DOT also anticipates a "511 Launch Conference" in the spring of 2002 that will bring together state and local public sector 511 implementing agencies with private sector service providers. The objective will be to provide a learning experience for the 511 community.

Pursuant to 47 C.F.R. § 1.1206(b)(1), this letter and one copy thereof are submitted for inclusion in the record in the above-referenced proceeding. Please contact me if you have any questions.

Thank you for your assistance in this matter.

Sincerely,

Paul Samuel Smith
Senior Trial Attorney
(202) 366-9280

Enclosures

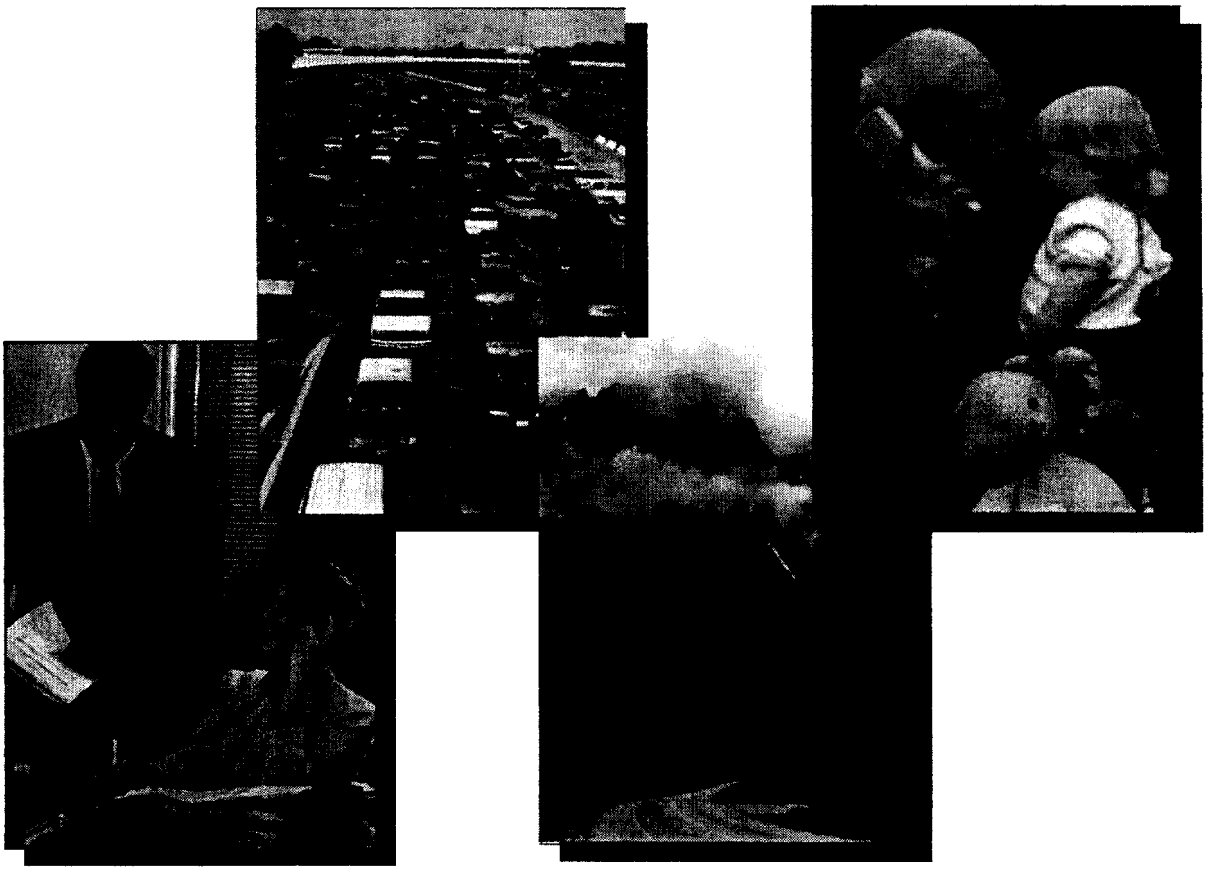
cc: Cheryl Callahan,
Network Services Division (w/ enclosure)

511

92-1051

America's Traveler Information Number

511 Policy Retreat #2
Preparatory Materials



August 23rd, 2001
Marriott Chicago Downtown
Chicago, IL

AASHTO 1914

APTA AMERICAN PUBLIC TRANSPORTATION ASSOCIATION

ITS America

DEPARTMENT OF TRANSPORTATION UNITED STATES OF AMERICA

American Association of
State Highway and
Transportation Officials

E. Dean Carlson, President
Secretary
Kansas Department
of Transportation

John Horsley
Executive Director

August 8, 2001

Dear 511 Policy Committee Member:

Subject: August 23rd 511 Policy Committee Meeting

On August 23rd, we will be having our next 511 Policy Committee Meeting. The purpose of this meeting is to complete the 511 "Launch Model" Guidance. Ever since the Tampa meeting, the 511 Working Group has been refining the Guidance based on our direction at Tampa. They are now ready to present their analysis and recommendations.

Our Tampa meeting focused on getting up to speed, generating discussion and establishing direction. The August 23rd meeting will be about decisions. By completing our work at this meeting, the Working Group staff can begin drafting 511 Guidance Resolutions to move through AASHTO, APTA, ITSA and as many other associations as we can reach. Our goal will be to achieve the AASHTO, APTA and ITSA approvals by the end of 2001.

Our format will be to hear from various members of the Working Group on their analysis and their recommendations. This will be followed by discussions and decision on the proposed recommendations. The topics will include *content, consistency and business models.* Forward plans will also be discussed as we move into a deployment assistance phase, which will begin immediately after the retreat. As we proceed with discussions and make decisions, our goal is to maintain a visionary approach.

The enclosed package contains materials for the retreat. Tabs 4 – 7 contain material the Working Group will be presenting. Your early review will assist in the discussion and the decision-making.

The meeting will be business casual. Please make sure you have registered so we can prepare for the appropriate number of participants (contact Sandra Fitzgerald at sfitzgerald@itsa.org for registration and hotel information).

I want to thank you for your commitment to setting direction on "511 America's Traveler Information Number." I look forward to our meeting in August. If you have any questions, please contact Jim Wright at 651-582-1349, or Rick Schuman at 407-647-7275 ext. 511.

Sincerely,

Elwyn Tinklenberg, Commissioner
Minnesota Department of Transportation

511 Policy Retreat #2
Marriott Chicago Downtown
Chicago, IL

Summary of Contents

511 Policy Retreat #2
Marriott Chicago Downtown
Chicago, IL

Preliminary Agenda

Wednesday, August 22nd, 2001

6:00 pm	Reception	

Thursday, August 23rd, 2001

8:30 am	Welcome & Introductions	Elwyn Tinklenberg, Chair Larry Yermack, Vice Chair Bill Millar (for Vice Chair Cook)
9:00	Context Presentation (to set the scene for the day)	Jim Wright
9:30	Content presentation	Tim Wolfe, Jerry Strigari
10:00	Break	
10:20	Content Discussion	Kathy Stein, etals
11:20	Lunch	
12:30	Consistency Presentation	Martin Knopp
1:00	Consistency Discussion	Kathy Stein, etals
2:00	Business Models Presentation & Discussion	Melanie Crotty, etals
2:45	Summary of Directions and Action	Elwyn Tinklenberg
3:00	Break	
3:20	**Forward Plans** – Marketing – 511 Deployment Launch – Discussion	 Carol Zimmerman, etals Jim Wright Kathy Stein, etals
4:20	Wrap up & Next meeting	Elwyn Tinklenberg
4:30	Adjourn	Elwyn Tinklenberg

Friday, August 24th, 2001

8:00 am – 3:00 pm 511 Working Group Committee Meeting

511 Deployment Coalition
Policy Committee

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Synopsis of March 29-30, 2001 511 Policy Retreat

The 511 Deployment Coalition's Policy Committee conducted its initial retreat, March 29-30, 2001 in Palm Harbor, Florida. Roughly 70 individuals participated in the Retreat, including approximately 25 Policy Committee members.

The Retreat focused on content, consistency and cost/cost recovery issues associated with 511, with preparatory work conducted by the Coalition's Working Group, the body of practitioners charged with supporting the Policy Committee.

The Policy Committee agreed upon a goal statement for 511 services: "A national traveler information service that is sustainable and provides value to the users." The Policy Committee also established several important principals to guide the work of the Coalition:

- *Strive to create a national system with high quality information*: National system is important – not individual systems, but part of a whole system in the eyes of callers. Quality information is important – consumers are increasingly discriminating. Information provided must be timely, accurate and reliable, or callers could turn against 511 services.

- *Recognize and consider bounded public sector resources*: This opportunity does not, generally speaking, come with specific new funding sources. The Coalition recognizes that limited funds exist to support 511 and that 511 services will be competing with ~~many~~ other transportation investments. The Coalition is not conducting its work with the premise of new funding sources to support these services.

- *Embrace private sector involvement to go beyond public sector-supported services*: 511 can offer many types of services. Some of these services, while beneficial to the traveling public, may not fall within the purview of a public sector responsibility. The Coalition will structure its efforts to maximize private sector involvement to minimize costs and maximize quality of basic services as well as tap the private sector to offer additional services.

The Policy Committee provided a few key directions to the Working Group:

- The Coalition needs a vision within which to deploy 511. We should recognize that a near-term vision (launch model) will likely evolve (vision model) and that the Coalition needs to accommodate this evolution.

- The Working Group was tasked with developing:

  - Draft basic content guidelines aimed at enabling both the public and private sectors to provide traveler information services and options that consumers want, and which are tailored to meet specific local needs.

- Draft consistency guidelines based on a philosophy of providing flexibility to implementers at this early stage while ensuring that callers will recognize the services as part of a national system. In the longer-term, the Policy Committee desires a consistent national service and image, though it was recognized that it would take time for early implementations to evolve to being completely consistent. There was consensus on the need for the "look and feel" of basic 511 services to be the same no matter where a customer accesses the service. However, local-option public sector-oriented and value-added private sector-oriented services may vary in appearance, allowing for competitive business strategies in the marketplace.

- Further research and analysis on possible costs and business models associated with 511. (Note: there was agreement that if possible the baseline public service content cost the end-user no more than the cost of a local wireline or wireless call, with additional charges for premium or other additional local service options being acceptable.)

➢ A national marketing plan to establish and promote the 511 service nationwide. This effort would include customer research that would assist in defining the service and would be used to monitor the performance.

All of these tasks are to be completed to the maximum extent possible, with the reports and discussions of these "deliverables" serving as the focal points of the Chicago retreat.

Discussion Topics

Content Guidelines

(This page highlights the key areas where Policy Committee endorsement is needed)

Previously Agreed to Key Points:

- Focus guidelines on "basic" content
- Regions can add additional publicly- and/or commercially-supported services at their option

Key Policy Recommendations:

- Highways and transit are basic content
- Basic highways is NHS/limited access highway focused
- Basic highway content:
    - Construction/Maintenance
    - Road Closures/Major Delays (includes major incidents/accidents and congestion)
    - Major Special Events
    - Weather and Road Conditions
    - Minor Incidents/Accidents (in urban areas)
    - Congestion Information (in urban areas)
- Basic transit content:
    - Brief agency description
    - Major service disruptions, changes or additions
    - Where appropriate, an option to be transferred to the agency's customer service center
- Highway segment travel times is an implementation recommendation, not a guideline

The Guidelines will be updates as necessary – This is Version 1.0

511 Basic Service Content Guidelines (Launch Model)

Version 1.0

August 2001

Table of Contents

I. Introduction

On March 8, 1999, The U.S. Department of Transportation (USDOT) petitioned the Federal Communications Commission (FCC) to designate a nationwide three-digit telephone number for traveler information. On July 21, 2000 the FCC designated 511 as the national traveler information number.

The FCC ruling leaves nearly all implementation issues and schedules to state and local agencies and telecommunications carriers. There are no Federal requirements and no mandated way to pay for 511; however, USDOT and FCC expect to see some type of nationwide deployment. In 2005, the FCC will review progress in implementing 511.

While the flexibility provided in the FCC ruling is highly desirable, it also presents a challenge. There is a great deal of interest in using 511 throughout the U.S. It is expected that there will be multiple requests for 511, at least in some parts of the U.S., from DOTs, transit agencies, regional and local transportation agencies, as well as private service providers who will offer to implement 511 services for some sort of compensation. If not thoughtfully planned, 511 services could devolve into an inconsistent set of services widely varying in type, quality, and cost.

511 Deployment Coalition Program

Mindful of both the opportunity and challenge 511 presents, the American Association of State Highway and Transportation Officials (AASHTO), in conjunction with many other organizations including the American Public Transit Association (APTA) and the Intelligent Transportation Society of America (ITS America), with support from the U.S. Department of Transportation, has established a 511 Deployment Coalition.

The goal of the 511 Deployment Coalition is "the timely establishment of a national 511 traveler information service that is sustainable and provides value to users." The intent is to implement 511 nationally using a bottom up approach facilitated by information sharing and a cooperative dialogue through the national associations represented on the Policy Committee, the governing body of the program. The mission of the Policy Committee is to provide guidance on how to achieve this goal.

The 511 Deployment Coalition is developing guidelines on content and consistency. A Working Group of managers involved in 511 and traveler information service delivery has been supporting the Policy Committee. The Working Group has studied extensively existing telephone-based traveler information systems and the projected technological, political and economic environments in the near future to develop recommendations for guidelines (see http://www.its.dot.gov/511/511.htm for materials developed or used by the Working Group and Policy Committee in its deliberations).

This document provides 511 content guidelines.

Purpose of the Guidelines

The 511 Deployment Coalition recognizes that 511 services will be developed in a bottom-up fashion with state and local transportation agencies establishing services in areas and timeframes determined by them. The positive benefits of this approach is that it enables resources from many organizations to be harnessed to deploy 511 as well as providing many opportunities for innovation in 511 service delivery. A potential negative consequence of simultaneous independent actions is that the resulting services do not, from a caller's or national policy perspective, resemble a well-planned consistent service.

To reduce the chances of service confusion and inconsistency, the 511 Deployment Coalition is establishing guidelines in the areas of content and consistency. While it is hoped that the major associations involved in the Coalition will adopt the guidelines and encourage their members to do the same, the guidelines do not carry the force of law, but rather are voluntary suggestions for deployers to consider as they develop specific 511 services. ***Simply put, if all implementers were to follow the guidelines, 511 service consistency would be established, and as an increasing number of services were established, a national 511 service would emerge.***

These guidelines are designed from a customer-centric viewpoint while being sensitive to the issues of those agencies that must gather and prepare information and manage information service provision. The 511 Deployment Coalition is very cognizant of the reality that if we don't develop quality systems, the transportation industry may lose the privilege of the number. On the other hand, if guidelines suggest services that are cost-prohibitive and unsupportable, the result could be few operating systems, also leading to losing the privilege of the number.

The transportation industry has been afforded a tremendous opportunity to better serve its customers. The purpose of these guidelines is to assist transportation agencies in establishing this customer service in the best possible manner.

II. Guidelines Overview

These content guidelines represent the culmination of nearly a year long process. As will be described in this document, several categories of information, or "content", are candidates to be provided via a 511 service. Some of these content categories are typical of what is offered through government-sponsored phone systems today. Other categories are extensions into additional public sector services, while others are the likely domains of private service providers. All of these content categories have been examined and considered in developing the guidelines.

The overriding philosophy of the content guidelines is that there are two types of content levels:

1. *Basic content* – Content that every 511 system should have. Basic content is the focus of these guidelines.

2. *Optional content* – Additional content beyond basic content provided by a 511 service. Optional content is up to the discretion of the system implementers and can include additional content supported by the public sector and/or private sector supported services. Section 4 will provide a summary of some possible optional content categories.

In addition, the guidelines include "implementation recommendations" addressing content topics that have been demonstrated to provide value to callers, but are recognized as difficult to uniformly implement. Therefore, while not explicitly part of the basic content package, these levels of content are recommended as part of 511 systems as they are developed and designed, if possible.

These guidelines recommend that every 511 system deployed in the U.S. should provide at minimum the basic content as defined in this document. It is this basic content that callers will associate as the core of 511.

III. Basic Content Guidelines

Basic content comes in two general categories:

1. *Highway* – Information associated with particular roadways in a 511 service area.

2. *Transit* – Information associated with transit services (bus, rail, etc.) in a 511 service area.

In each of these content categories, the guidelines provide general principals or philosophies and specific guidance on the type of information that should be provided to callers.

Note that a key concept in 511 service planning is that 511 services must be designed to provide information beyond a single agency, mode or content type.

Highway Content

As a preponderance of travel in the United States uses highways, information about major roadways should be a principal part of a 511 system. The core of many existing telephone-based traveler information services is highway conditions reporting. As these systems migrate to 511 access and new systems are established, the following guidance should be considered.

Principals

Content is route/corridor-based. 511 services should provide information that is retrievable by route number and/or name. In certain circumstances, if one or more principal roads run parallel, it may be acceptable to provide information on a corridor-basis. However, providing information on major roadways on a broad geographic basis (e.g. "roads in the Northwest portion of the state will be...") is not recommended. When a route/corridor is operated by multiple agencies, these agencies should work together to provide an integrated description of conditions.

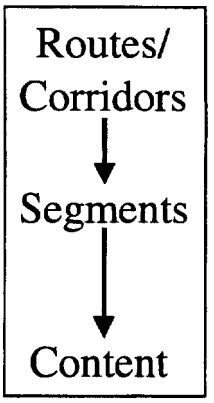
Limited access roadways and the National Highway System should be the basis for basic 511 highway/roadway-related content. With 40% of the nation's travel, including 75% of truck traffic and 90% of tourist traffic, the 160,000 mile National Highway System should be the focus of basic 511 content. Limited access roadways that are not part of the NHS, likely to exist in urban areas, should also be part of the basic content. (State-by-state maps of the National Highway System can be found at www.fhwa.dot.gov/hep10/data/data.html).

More detail needed in urban areas. Given the increased traffic volumes and congestion levels in urban areas, even minor events could have large impacts to travel. Thus, greater content detail is recommended in urban areas.

Content is automated. Whether the information provided to the caller is a human recorded message, synthesized or digitized speech, the information is stored and automatically provided to callers. There is no direct contact between callers and human operators to provide basic highway content.

Guidelines

Figure 1

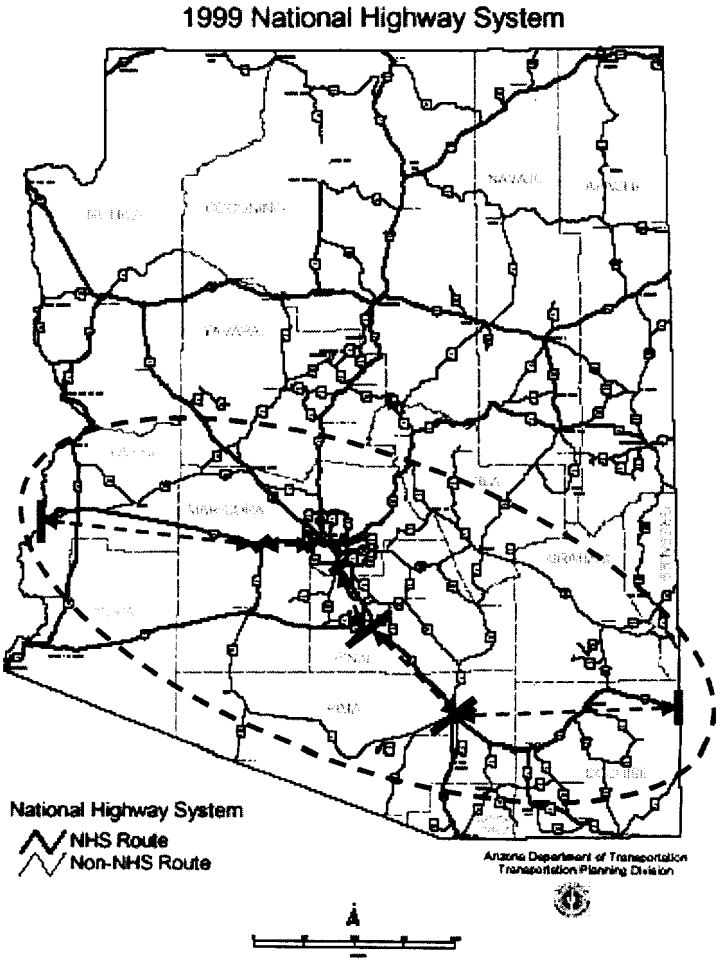


The fundamental structure of a telephone system design matches highways very well. Telephone systems are often accessed through a "menu tree" that could be navigated by touching a phone's keypad or by voice commands. Eventually, a caller reaches their desired destination in the system and either gets a recorded or digitized voice message. When seeking highway information, a caller will first find the specific highway or corridor for which they desire information. The caller will then find the specific segment of highway or corridor they are interested in, if it is a lengthy road. Once the 511 service knows the specific section of highway the caller is interested in, it then provides the caller a report of the relevant basic content. This process is graphically illustrated in Figure 1, with "routes", "segments" and "content" serving as the key descriptors of the content guidelines.

Routes/Corridors. Information on all National Highway System facilities/corridors should be available to callers. In urban areas, information on all non-NHS limited access highways should also be available to callers.

Segments. In non-urban areas, long routes should be sub-divided into segments. Segment specification is left to the implementer, but should follow logic with segments defined between major towns, landmarks or roadways. In urban areas, segments should be defined between major interchanges and will generally be smaller in length than non-urban segments. Figure 2 provides a possible example of segmentation, where I-10 in Arizona contains urban and non-urban segments.

Figure 2



Content. For each segment, specific types of content should be provided. In non-urban areas, information should include:

- *Construction/maintenance projects.* Current information on active projects along the route segment that may affect traffic flow and/or restrict lanes.
- *Road closures and major delays.* Unplanned events, major incidents or congestion that shut

down or significantly restrict traffic for an extended period.

- *Major special events.* Transportation-related information associated with significant special events (fairs, sporting events, etc.).
- *Weather and road surface conditions.* Abnormal weather or road surface conditions that could affect travel along the route segment.

In urban areas, information on all incidents and accidents, both major and minor, and congestion information along each route should also be provided.

For each of these highway content types, it is necessary to provide details that enable callers to assess the travel conditions along a route segment and when necessary make a determination if a trip along that route segment should proceed as planned or not. As Table 1 illustrates the detailed information needed for each content type.

Table 1 – Basic Content Detail Needed for Each Highway Content Type

	Geography		Content Detail					
Content Type	Non-urban	Urban	Location	Direction of Travel	General Description and Impact	Days/Hours and/or Duration	Detours/Restrictions/ Routing Advice	General forecasted weather and road surface conditions
Construction/Maintenance	✓	✓	✓	✓	✓	✓	✓	
Road Closures/Major Delays	✓	✓	✓	✓	✓	✓	✓	
Major Special Events	✓	✓	✓		✓	✓	✓	
Weather and Road Conditions	✓	✓	✓		✓			✓
Incidents/Accidents (Minor)*		✓	✓	✓	✓			
Congestion Information*		✓	✓	✓	✓			

* Major Congestion Information and Incident/Accidents are considered part of the "Road Closures/Major Delays" Content Type

- *Location.* The specific location or portion of route segment where a reported item is occurring, related to mileposts and/or interchange(s).
- *Direction of Travel.* The direction of travel on the route segment a reported item is occurring.
- *General Description and Impact.* A brief account and impact on travel of the reported item.
- *Days/Hours and/or Duration.* The period in which the reported item is "active" and possibly affecting travel.
- *Detours/Restrictions/Routing Advice.* As appropriate, summaries of required detours, suggested alternate routes and travel restrictions associated with a reported item.
- *General forecasted weather and road surface conditions.* Near-term forecasted weather and pavement conditions along the route segment.

Content Quality. In an increasingly advanced information society, callers are generally accustomed to high quality information. 511 content must be no different. Specifically, 511 implementers must focus on the following quality parameters:

- *Accuracy.* Reports must contain information that matches actual conditions. If the system reports construction events that are not occurring (or worse, does not report a construction event that is occurring) or a road closure is not reported, callers will come to distrust the information provided. If inaccuracies persist, callers will discontinue their use of 511.
- *Timeliness.* Closely related to accuracy, information provided by 511 must be up-to-date. While it is recognized that non-urban areas will have more difficulty collecting, inserting and updating information quickly, every attempt must be made in both urban and non-urban areas to update information as soon as there is a known deviation from the current route segment report.
- *Reliability.* Often, transportation management systems operate during normal working hours. But travelers use highways 24 hours a day, 7 days a week. In fact, often the most challenging travel conditions are at nighttime. Methods must be developed to provide callers a reliable stream of information 24/7. Also, the inherent reliability of the 511 system needs to minimize the amount of time callers will be unable to obtain a report along a route segment due to equipment or process failures.

Information quality is a major concern to the 511 Deployment Coalition. ***The quality of basic content information will largely determine the success of 511.*** 511 services should give callers the ability to gauge the quality of the reported information to enable them to properly weigh the information in their decision-making (e.g. "there is a report of an avalanche..." vs. "an avalanche has occurred..."). However, the Coalition has not included specific quality parameters as part of the Version 1.0 guidelines. This is for two reasons:

- More collective deployment experience and user feedback is needed prior to determining optimal quality parameters.
- The Coalition hopes that a special focus on information quality by implementers will lead to quality services.

In future updates to the guidelines, specific quality parameters may be added.

Implementation Recommendations

The following "implementation recommendations" address content topics that have been demonstrated to provide value to callers, but are recognized as difficult to uniformly implement. Thus providing the following content is recommended if possible, but not explicitly part of the basic content package for highways.

- *Segment Travel Times.* Particularly in urban areas, estimated travel times across a route segment have proven highly desirable by callers. Travel times could be provided each in absolute terms ("segment travel time is 24 minutes") or in terms of delay from normal conditions ("segment travel time is delayed 5 minutes"). In case of absolute travel times, it

is recommended that travel times given do not exceed the speed limit travel time. In urban areas, multi-segment or corridor travel times would also be acceptable.

- *Observed weather and road surface conditions.* Environmental sensor stations (ESS) or Road Weather Information Systems (RWIS) offer the ability to observe weather of road surface conditions at specific locations along a road segment. This data can be utilized to provide much more accurate weather-related information to callers than generalized area forecasts.

Transit Content

Regardless of the size and nature of a 511 service area, there are likely to be one or more transit service providers in operation. In many cases, these transit operators already have established methods of communicating to public about their services, including web sites and customer service centers accessible by telephone. If properly utilized and coordinated with these existing communications methods, 511 can assist transit operators in better serving their customers and possibly even attract new customers. The following guidelines should be considered when developing the transit information component of a 511 service.

There are many different approaches transit operators could take to implement their portion of 511 services. These guidelines are intended to maintain this implementation flexibility.

Principals

Information access via telephone has proven to be extremely important in transit customer service. The principal purposes for these services are for general agency and service information, communicating service disruptions and changes, and trip planning.

At the basic content level, 511 can assist in providing callers general agency and service information, and communicating service disruptions and changes. Also, callers could be directed to where they can obtain more detailed information and trip planning.

The following basic principals should be followed:

- *Information on all transit agencies in a 511 service area should be accessible.* Often, one or two dominant transit agencies exist in an area, but many more exist that collectively provide a region's public transportation system. All of these operators should be accessible via 511. In complex or large geographic areas, it may be necessary to subdivide areas before identifying specific agencies (e.g., the San Francisco bay area currently uses five sub-regions).
- *511 works in conjunction with existing transit customer service centers accessible by telephone.* 511 is not intended to replace these operations, but to provide compatible and supplemental information. Further, the vision is that callers would have direct access to customer service centers via 511.
- *511 systems should attempt to minimize overload on transit customer services centers.* Collective wisdom is that 511 access could increase the number of callers seeking transit information. If 511 were merely designed as a shorter number to access the service center,

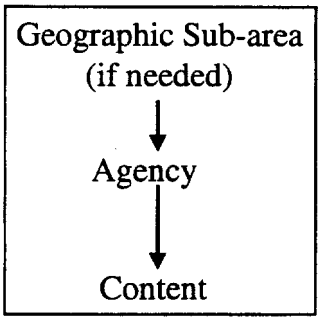
this could significantly increase total calls to the customer service center. However, 511 systems could and should be designed to provide automated messages described in these guidelines that will answer many callers' questions prior to seeking assistance from customer service center operators. Ideally, clever design will reduce the number of calls to be fielded by operators, while increasing the total number of calls successfully managed.

- *Each agency is responsible for their information.* To ensure information quality and agency autonomy, any information provided via 511 for a particular transit operator must be provided or quality checked by that operator. Agency specific information will be perceived by callers as coming from that agency, thus the agency must either directly provide or ensure the accuracy of the information.

Guidelines

In a basic 511 service, each transit agency should be responsible for its own portion of the content. A caller will navigate to the desired agency, selecting a geographic area if the service area is large or complex. This process is graphically illustrated in Figure 3.

Figure 3



Each agency has great flexibility in terms of content structure. Of course, those designing an agency's 511 service need to remember that calls have to make at least one or two navigating commands to select their agency, and that care should be taken to provide information to the caller as swiftly as possible.

Content. For each transit agency, the 511 system should have at least a single automated report that provides:

- *A brief description of the agency's operations.* Quickly address the type of transportation services provided and the geographic are served by the system. For example, "XYZ Transit agency, providing bus service in the greater ACME region". This element must be brief to minimize caller wait time.
- *Major service disruptions, changes or additions.* Provide information on temporary changes in services (specific routes, vehicles or access), alerts and/or summaries of scheduled services changes, and details of extra services being used for current or upcoming special events.
- *Where appropriate, an option to be transferred to the agency's customer service center.* It is recommended that direct transfer options be established so that callers will directly transfer to an agency's customer service center without hanging up, essentially creating a seamless system from the caller's perspective. (Note: Care should be taken to understand the call volume of the centers to which the 511 system will transfer calls. It may be necessary to segregate outbound lines that the 511 system will use for this purpose and allocate unique outbound lines for each center. This will help avoid the traffic destined to one call center from saturating the capacity of the 511 system and therefore blocking any additional calls from being directly transferred to other centers.)
- *Other "broadcast" information that the transit operator wishes to provide to callers.* Static information such as special fare and pass information, real-time parking availability

information, and the agency's Internet address are a few of the examples of the information an agency could provide via automated messages on 511.

A single report is the basic guideline. Agencies have the option to add more layers and depth to their content. For transit agencies with large or complex operations, if a single automated report would either be too long and cumbersome or potentially confusing for callers, basic content as described above should be provided in a logically segmented fashion (e.g., by mode or by region).

Content Quality. In an increasingly advanced information society, callers are generally accustomed to high quality information. 511 content must be no different. Specifically, 511 implementers must focus on the following quality parameters:

- *Accuracy.* Reports must contain information that matches actual conditions. If the system reports service disruptions are not occurring (or worse, does not report a service disruption), callers will come to distrust the information provided. If inaccuracies persist, callers will discontinue their use of 511.
- *Timeliness.* Closely related to accuracy, information provided by 511 must be up-to-date. While it is recognized that smaller agencies will have more difficulty inserting and updating information quickly, every attempt must be made by both large and small agencies to update information as soon as there is a known deviation from the current report.
- *Reliability.* Methods must be developed to provide callers a reliable stream of information 24 hours a day, seven days a week. Also, the inherent reliability of the 511 system needs to minimize the amount of time callers will be unable to obtain a report along a route segment due to equipment or process failures.

Information quality is a major concern to the 511 Deployment Coalition. ***The quality of basic content information will largely determine the success of 511.*** 511 services should give callers the ability to gauge the quality of the reported information to enable them to properly weigh the information in their decision-making (e.g. "there is an unconfirmed report of delays on bus routes 7, 12, and 15..." vs. "because of a street blockage on Maple, bus routes 7, 12, and 15 are experiencing delays..."). However, the Coalition has not included specific quality parameters as part of the Version 1.0 guidelines. This is for two reasons:

1. More collective deployment experience and user feedback is needed prior to determining optimal quality parameters.

2. The Coalition hopes that a special focus on information quality by implementers will lead to quality services.

In future updates to the guidelines, specific quality parameters may be added.

Implementation Recommendation

The following "implementation recommendation" addresses a content topic that has been demonstrated to provide value to callers, but is recognized as difficult to uniformly implement.

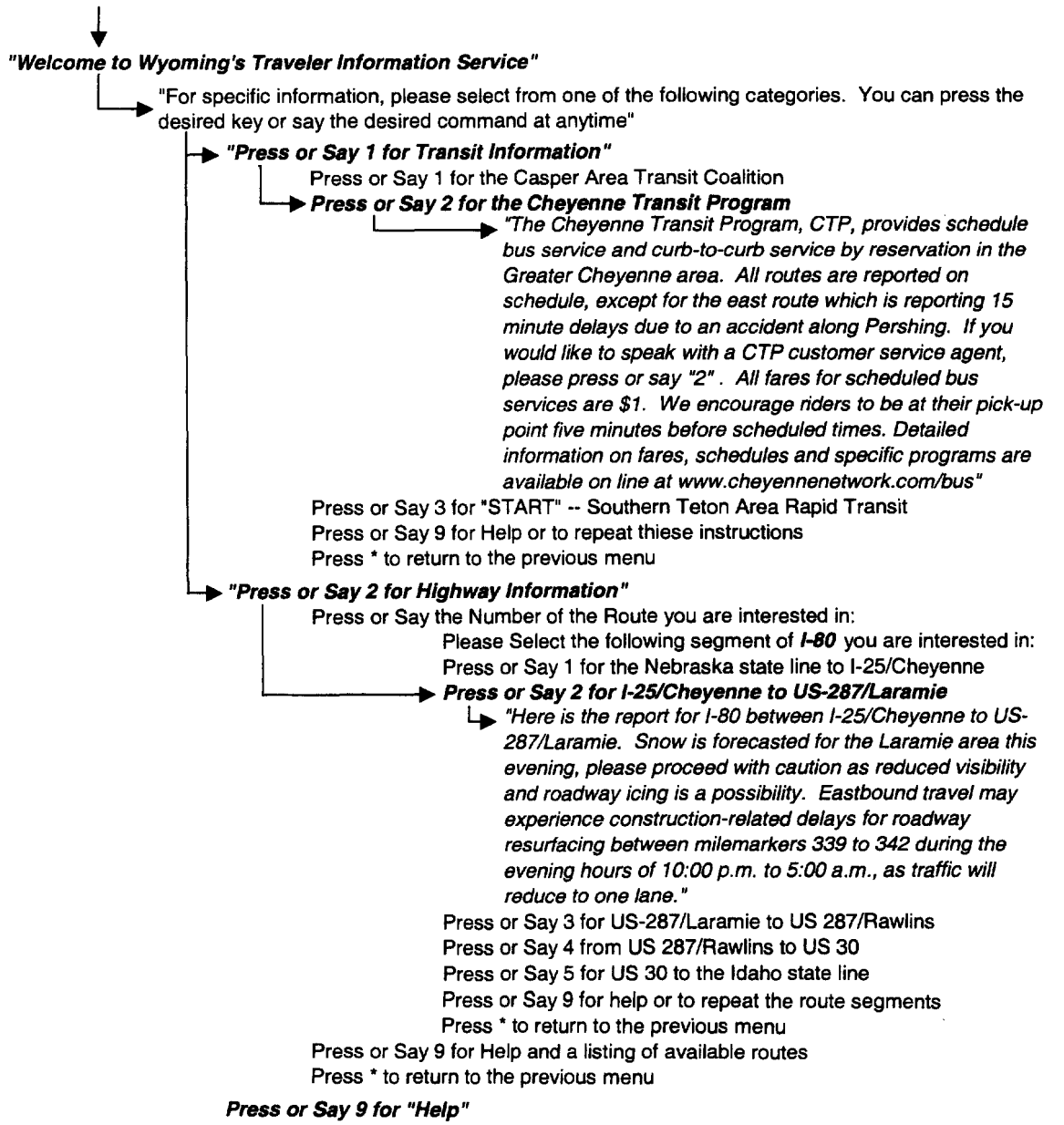
Thus providing the following content is recommended if possible, but not explicitly part of the basic content package for transit.

- *Regional or corridor specific transit information.* The basic content guideline for transit indicates that each transit agency should have automated reports. As technical capabilities and information collection techniques improve, it is desirable in areas served by multiple transit providers to allow 511 callers to request information based on a region or corridor, instead of by transit provider. Infrequent users may not be familiar with the transit properties that serve their area, and allowing them to request the availability and status of services based on location would permit them to make wiser travel choices. In addition, frequent users may be able to access status information about their usual routes more quickly than hearing a report for the entire transit property.

Example of a Basic 511 System

To illustrate how a "basic" 511 system could operate, the following example is provided. This example, based upon a fictitious implementation in the State of Wyoming, is for illustrative purposes only. It was not developed with the aid of any agency in Wyoming, nor is it intended to guide user interface designs. It is provided to illustrate the nature of "basic" content. Figure 4 provides a logical progression through both the transit and highway content until each reaches an automated report.

Figure 4



IV. Optional Content

As indicated, the 511 Deployment Coalition recognizes that additional content beyond the basic content described in the previous section could be provided by a 511 service. In fact, the Coalition encourages, so long as quality basic content is being provided, that 511 implementers consider providing optional content that will benefit callers.

Again, this optional content is up to the discretion of the system implementers and can include additional content supported by the public sector and/or private sector supported services. Based on local demographics or geography, some of these optional content categories would be expected by local callers. Implementers should factor in this expectation in their service planning process.

In providing additional content implementers have essentially two choices:

1. Go Deeper

2. Go Broader

Go Deeper. A richer set of basic services could be provided via 511. For example, information on more highway routes, such as major arterials, could be added to the basic system. Or more detailed content could be provided on transit services (e.g., detailed choices for automated messages could be provided – service disruptions may be a different selection than parking availability at a rail station for instance – as opposed to a single automated message). Another possibility is that an agency or region could choose to greatly improve the accuracy, timeliness or availability of their information, improving its quality but not adding further content.

Go Broader. Many additional content categories have been considered for inclusion in 511 services, but are not part of the basic content package. The following list is representative, but not exhaustive, of the possible optional content categories. Implementers may choose to implement these and other types of content *(Please note that the 511 Deployment Coalition is not assessing the merits of each of these content options, merely providing them for the readers consideration)*:

- *Tourist Information* – Specific information about local tourist attractions, tourist information centers, convention and visitors bureaus, etc. Could be recorded messages or connections to live operators.
- *Special Events* – Information pertaining to major special events occurring in a service area. The information may go beyond transportation-related information to include event-related information such as times, locations, event descriptions, etc.
- *Parking* – Parking location and possibly parking lot status information.
- *Local Information/Points of Interest* – Information such as restaurant locations, gas stations, taxis etc. Could be extended to include reservation services.

- *Interregional Information* – Information pertaining to transportation conditions in other, perhaps adjacent, regions. Examples include extension of an interstate travel corridor or a major city in an adjacent state.
- *Driving Directions* – In a voice-activated 511 service, callers can provide their location and their desired destination and obtain driving directions. These directions could be based upon real-time conditions and/or can include estimated trip travel time if such information is available.
- *Public Transportation Trip Itinerary Planning* – In either a voice activated or operator-assisted environment, callers can obtain transit trip plans that could include routes, transfers, costs and trip times.
- *Multimodal Routing and Trip Planning* – Integrating information from multiple modes (highways, transit, rail, air, etc.), callers can obtain a complete trip itinerary that is as efficient as possible, regardless of mode.
- *Incident Reporting* – 511 is intended primarily as an information source for callers. However, systems can be designed such that callers could report incidents through 511 as well, either by communicating directly with an operator or by leaving a voice message.
- *Local Transportation Facilities Information* – Callers can obtain information about major transportation facilities in the 511 service area, including airports, train stations, ferry, freight, and cruise ports. Information could include parking and traffic conditions associated with the facilities.
- *Local Transportation Services Information* – Callers can obtain information on transportation programs in the 511 service area, such as carpools and vanpools.
- *Concierge Services* – Human operators can provide any of the above information to callers. These operators could also handle additional services, such as reservations and purchases.
- *Personalized services* – Callers can provide profiles of their normal travel patterns and the system, by recognizing the phone number of the caller, can provide a complete report along the caller's route (e.g., the conditions on a commuters complete normal route), without requiring callers to locate and review reports on multiple route/corridor segments.

In examining the addition of optional content, system implementers should be careful to design a system that complements – rather than diminishes – the impact of the basic content services.

V. Monitoring and Updating the Guidelines

These content guidelines are designated as version 1.0. The 511 Deployment Coalition recognizes that these guidelines are needed and desired as soon as possible by implementers to establish systems that adhere to these guidelines. However, until practical experience is gained through deployment and use, some areas of these guidelines – some things that are in the guidelines and some things that have been omitted – may require modification or clarification.

The Deployment Coalition plans to continue to monitor and review the guidelines, producing updates as warranted.

If implementers have suggestions for improvements, please provide this information electronically to "511feedback@aashto.org".

VI. Other Issues

This section provides additional background information that may be of use to implementers when determining the content a 511 system will provide. Though surely not exhaustive, these areas have been uncovered in the development of these guidelines as areas to consider:

- *Usage Monitoring.* Applications are commonly used in computer telephony systems to provide detailed and summary usage statistics. Implementers should consider employing such usage monitoring systems to obtain information about patterns of usage of different parts of the 511 system. This information can be used for many purposes, such as identifying high priority areas that must be maintained at the highest quality or identifying little used areas that may suggest either design flaws or information quality problems. Gathering usage data and continually assessing system performance based upon this data will go a long way towards ensuring services meet caller needs.
- *Standards.* The ITS program has invested considerable resources in the development of national standards to facilitate the efficient exchange of information. Some of these standards, consistent with the national ITS architecture, could be quite beneficial to system implementers by reducing the time and resources required to share information between transportation management systems and the 511 support systems. Existing standards that should be examined include the ATIS and ATMS data dictionaries and several "business area standards" from the Transit Communications Interface Profiles (TCIP) family of standards. An example of how these standards can help is the ATIS Data Dictionary, which includes binary codes for over 1500(?) types of highway event "descriptors". These codes could be programmed in both the management systems and 511 equipment and only binary codes would need to be transferred between systems to provide information necessary to create route-segment reports. This also has the benefit of largely standardizing the reports that callers hear, aiding their understanding of reported information. The central focal point for ITS standards information is http://www.its-standards.net/.
- *Enabling feedback from callers.* Some existing telephone systems have methods such as voice mailboxes that enable callers to provide feedback on the quality of the service and to offer suggested improvements. Implementers should consider incorporating such a feature into their 511 systems as it gives a direct feedback mechanism from callers. However, care should be taken to distinguish this service from the "Incident Reporting" optional content described in section 4, which would, where implemented, enable callers to provide real-time or near real-time condition reports to transportation managers.